

Claims:

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1. A suicide expression vector for expressing a heterologous peptide, polypeptide or protein in a selected host cell, said vector comprising:
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- (i) a first nucleotide sequence encoding said heterologous peptide, polypeptide or protein operably linked to a first promoter sequence,
- (ii) a second nucleotide sequence encoding a restriction enzyme or functional portion thereof operably linked to a second promoter sequence, said second promoter sequence being inducible, and
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- (iii) one or more cleavage site(s) for said restriction enzyme or functional portion thereof, said cleavage site(s) being absent from the chromosomal DNA of said host cell,
- wherein upon introduction of the vector into said host cell, induced expression of the restriction enzyme or functional portion thereof from said
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- second nucleotide sequence brings about the cleavage of the suicide expression vector.
2. A vector according to claim 1, wherein the first nucleotide sequence encodes an antigen, enzyme or toxin.
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3. A vector according to claim 2, wherein the first nucleotide sequence encodes a contraceptive antigen.
4. A vector according to claim 2, wherein the first nucleotide sequence encodes an esterase capable of hydrolysing organophosphates.
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5. A vector according to claim 2, wherein the first nucleotide sequence encodes an insecticidal toxin.
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6. A vector according to claim 1, wherein the second nucleotide sequence encodes a restriction enzyme or functional portion thereof that recognise a cleavage site(s) of ten or more nucleotides.
7. A vector according to claim 6, wherein the second nucleotide sequence encodes a restriction enzyme selected from the group consisting of I-PpoI, I-CeuI, P1-PspI, P1-T7II and P1-SceI.

8. A vector according to ~~any one of the preceding claims~~, wherein the one or more cleavage site(s) is/are located at a site(s) on the vector which avoids steric hindrance of binding by said restriction enzyme or functional portion thereof.

9. A vector according to ~~any one of the preceding claims~~, further comprising a third nucleotide sequence encoding a ribozyme targetted against mRNA produced from the said second nucleotide sequence encoding the restriction enzyme or functional portion thereof.

10. A vector according to ~~any one of the preceding claims~~, wherein the second promoter is selected from the group consisting of the *lacZ* promoter, the *lacUV5* promoter and the T7 RNA polymerase promoter.

11. A vector according to claim 10, wherein the second promoter is the T7 RNA polymerase promoter.

12. A vector according to claim 11, further comprising an additional nucleotide sequence encoding T7 RNA polymerase operably linked to a third promoter sequence, said third promoter sequence being inducible.

13. A host cell transformed with a suicide expression vector according to ~~any one of the preceding claims~~.

14. A host cell according to claim 13, wherein said host cell is a bacterium or yeast.

15. A method of expressing a heterologous peptide, polypeptide or protein in a selected host cell, comprising;  
(i) transforming said host cell with a suicide expression vector according to ~~any one of claims 1 to 12~~;  
(ii) culturing said transformed host cell under suitable conditions for the expression of the said heterologous peptide, polypeptide or protein, and  
(iii) thereafter inducing expression of the restriction enzyme or functional portion thereof to bring about cleavage of the said suicide expression vector.

16. A method according to claim 15, wherein the host cell is a bacterium or yeast.

sub D6 > 5 17. A method for the production of a microorganism vector which contains recombinant peptide, polypeptide or protein but no recombinant DNA, comprising;

9 (i) transforming said microorganism with a suicide expression vector according to any one of claims 1 to 12;

10 (ii) culturing said transformed microorganism under suitable conditions for the expression of the said heterologous peptide, polypeptide or protein, and (iii) thereafter inducing expression of the restriction enzyme or functional portion thereof to bring about cleavage of the said suicide expression vector.

15 18. A method according to claim 17, wherein the microorganism is a bacterium or yeast.

19. A microorganism vector produced by the method according to claim 17 or 18:

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